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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2002P09740WO	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP2003/006202	International filing date (day/month/year) 12 June 2003 (12.06.2003)	Priority date (day/month/year) 19 June 2002 (19.06.2002)
International Patent Classification (IPC) or national classification and IPC H04Q 3/66		
Applicant SIEMENS AKTIENGESELLSCHAFT		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet.
- ☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 4 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 31 October 2003 (31.10.2003)	Date of completion of this report 06 October 2004 (06.10.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International Application No.

PCT/EP2003/006202

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

- ☐ the international application as originally filed
- ☒ the description:  
pages \_\_\_\_\_ 1-7, 9, 10 \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_ 8 \_\_\_\_\_, filed with the letter of \_\_\_\_\_ 08 June 2004 (08.06.2004)
- ☒ the claims:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, as amended (together with any statement under Article 19  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_ 1-9 \_\_\_\_\_, filed with the letter of \_\_\_\_\_ 08 June 2004 (08.06.2004)
- ☒ the drawings:  
pages \_\_\_\_\_ 1/3-3/3 \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig \_\_\_\_\_

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1-9	YES
	Claims		NO
Inventive step (IS)	Claims	1-9	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-9	YES
	Claims		NO

## 2. Citations and explanations

Reference is made to the following documents:

- D1: "Media Gateway CX3200", SATOH N et al., NEC Research and Development, Vol. 42, No. 2, pages 133-137, April 2001 (04.2001), XP001036304
- D2: "Signaling Gateway CX6100-SG", HARASAKI K et al., NEC Research and Development, Vol. 42, No. 2, pages 138-142, April 2001 (04.2001), XP001036305
- D3: US 2002/027983 A1 (SUZUKI Y), 7 March 2002 (2002-03-07)
- D4: US-A-5 835 696 (HESS G C), 10 November 1998 (1998-11-10)
- D5: WO 02/21859 A (TEKELEC), 14 March 2002 (2002-03-14)

Documents D1 and D2 are not cited in the international search report. Copies are attached.

Claim 1

Document D1 is considered to be the prior art closest to the subject matter of claim 1. D1 discloses (the references in parentheses are to D1) *a method for fault-tolerant connection of a network element (cf. the Media Gateway CX3200) that has at least one ~~packet-switching~~ TDM component with at least dual redundancy (cf. the LIC0 and LIC1 cards in figure 2; LIC = Line Interface Control (see section 2)) to a communications*

- network (cf. an IP network, designated "IPNW"),
- such that each of at least two ~~packet-hybrids~~ **interface units** (cf. the RAS/VOIP cards in figure 2) has a connection coupling it to a component in the communications network (cf. the arrows designated "IPNM/MGOPS") and a connection coupling it to the redundant components of the network element (cf. the solid and dotted lines designated "EIPHW"),
  - wherein a first redundant component is active and serves to transmit user data, and all the other redundant components operate in standby mode and do not transmit user data (cf. section 3, last paragraph).

The subject matter of claim 1 differs from this known method in that:

- the components are **packet-switching components** (not TDM components as in D1), and
- the interface units are **packet hybrids** which pass **packet data** to and from the active components.

In other words, the subject matter of claim 1 differs from D1 by virtue of the position of the TDM/IP transition device in the network element.

The subject matter of claim 1 is therefore novel over D1 (PCT Article 33(2)).

The problem addressed by the present invention can therefore be seen as that of devising an alternative method for fault-tolerant connection of a network element to a communications network.

None of the available documents disclose or suggest a solution to this problem using the features specified in

claim 1. There is no indication in D1 that the TDM components and interface units can be replaced by packet-switching components and packet hybrids, respectively.

Document D2 also discloses a method for fault-tolerant connection (cf. page 140, left-hand column, section 3) of a network element (cf. the Signaling Gateway CX6100-SG) that has a component with dual redundancy (cf. the PRU0 and PRU1 cards in figure 2; PRU = Processor Unit Package (see section 3)) to a communications network (cf. IP network), wherein each of two interface units (cf. the COCs; COC = Communication Controller) has a connection coupling it to a component in the communications network (cf. "network interfaces", page 140, left-hand column, section 3) and a connection coupling it to the redundant components (cf. the PRU0 bus and the PRU1 bus), and wherein one of the redundant components is active and the other operates in standby mode (cf. page 139, right-hand column, section 1). However, the redundant components are processor cards operating above the MTP3 layer rather than packet-switching components, and the interface units are communication controllers rather than packet hybrids.

Document D3 discloses a group of media gateway controllers. However, the media gateway controllers are not coupled to each other by connections; they merely send signal information to each other over the IP network (see paragraph [0033]).

Document D4 discloses a back-up facility for data routers (see the abstract) with no packet hybrids (see figure 2).

Document D5 discloses a call processing node with redundant call servers (see page 14, lines 18 to 20). It does not disclose a method for fault-tolerant connection to a communications network.

The subject matter of claim 1 is therefore novel and inventive and thus meets the requirements of PCT Article 33(2) and (3).

**Claims 2 to 6**

Claims 2 to 6 are dependent on claim 1 and therefore also meet the PCT requirements in respect of novelty (PCT Article 33(2)) and inventive step (PCT Article 33(3)).

**Claim 7**

Claim 7 defines a network element with essentially the same features as claim 1, and therefore also meets the PCT requirements in respect of novelty (PCT Article 33(2) and inventive step (PCT Article 33(3)).

**Claims 8 and 9**

Claims 8 and 9 are dependent on claim 7 and therefore also meet the PCT requirements in respect of novelty (PCT Article 33(2)) and inventive step (PCT Article 33(3)).